

### **Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings of claims in the application.

### **Listing of Claims:**

1. (Currently Amended) A method comprising:

receiving a plurality of task containers ~~representing a plurality of tasks~~, each said task container representing a task to be scheduled, where each said task container ~~is~~ includes a grouping of a plurality of resource containers, wherein each said resource container includes resource information that specifies one or more resources required for the represented task and selection criteria to select from the one or more resources, and wherein at least one of the selection criteria specifies an 'AND' relationship indicating that all of a plurality of specified resources are required to perform the represented task each said task container further includes an interface function that when called determines the probability that the task represented by another task container will influence the task represented by the called task container based on a current schedule state and selection criteria specified in resource containers of the another task container and the called task container;

generating a cost for each task based on probabilities that the task will influence each other task in the plurality of tasks using the containers; and  
scheduling the task with the least cost.

2. (Cancelled)

3. (Previously Presented) A method as recited in claim 1 wherein the each selection criteria specifies a relationship selected from a group consisting of:

an "AND" relationship indicating that all of a plurality of the resources are required to complete the represented task;

an "XOR" relationship indicating that only one of the one or more resources is required to complete the represented task; and

an "OR" relationship indicating that one or more of the one or more resources are required to complete the represented task.

4. (Original) A method as recited in claim 1 further comprising:  
receiving a timeslot definition associated with each of the plurality of tasks or resources,  
the timeslot definition defining a required timeslot for the associated task or resource.

5. (Original) A method as recited in claim 4 wherein the timeslot definition comprises  
an early start indicator, a late finish indicator, and a duration indicator.

6. (Original) A method as recited in claim 1 further comprising:  
receiving a constraint describing a time constraint between two tasks in the plurality of  
tasks; and  
scheduling the two tasks based on the constraint.

7. (Original) A method as recited in claim 1 wherein the generating comprises:  
determining a probability that a first task in the plurality of tasks influences a second task  
in the plurality of tasks based on the resource information; and  
adjusting the cost of the first tasks based on a function of the probability that the first task  
in the plurality of tasks influences the second task in the plurality of tasks.

8. (Original) A method as recited in claim 1 wherein the generating comprises:  
determining a probability that a first task in the plurality of tasks supports a second task  
in the plurality of tasks based on the resource information; and  
if the first task supports the second task, reducing the cost of the first task based on a  
function of the probability that the first task supports the second task.

9. (Original) A method as recited in claim 1 wherein the generating comprises:  
determining a probability that a first task in the plurality of tasks competes with a second  
task in the plurality of tasks based on the resource information; and  
if the first task competes with the second task, increasing the cost of the first task based  
on a function of the probability that the first task competes with the second task.

10. (Original) A method as recited in claim 1 wherein the generating comprises:  
selecting a first task from among the plurality of task;

for each of the other tasks in the plurality of tasks, determining a pair-wise probability, the pair-wise probability representing a probability that the first task will compete with the other task; and

summing the pair-wise probabilities to form a total cost associated with the first task.

11. (Original) A method as recited in claim 1 wherein the resource information comprises preference information describing preferences of the one or more resources.

12. (Original) A method as recited in claim 1 wherein the generating comprises applying preference values to the tasks.

13. (Original) A method as recited in claim 1 wherein the generating comprises tabulating a cost associated with each pair of tasks.

14. (Original) A method as recited in claim 1 further comprising:  
removing the scheduled task from a main task log;  
adjusting probabilities associated with resources remaining in the main task log based on the scheduled task; and

re-generating a cost for each task based on probabilities that the task will influence each other task in the plurality of tasks using the resource containers.

15. (Previously Presented) A computer-readable medium storing processor-executable instructions for performing a method comprising:

receiving a plurality of first resource identifiers identifying descriptors describing first resources associated with a first candidate task and selection criteria defining how the first resources are to be selected from the plurality of first resources, ~~wherein at least one of the selection criteria is an 'AND' relationship indicating that all of a specified plurality of the first resources are required to perform the first candidate task;~~

receiving a second resource identifier identifying descriptor describing a second resource associated with a second candidate task;

querying a task container to determine a pair-wise cost of scheduling the first candidate task based on the first resources, the second resource and the selection criteria; and

scheduling one or more of the first candidate task and the second candidate task based on the determined pair-wise cost, ~~wherein at least all of the plurality of first resources specified in the ‘AND’ relationship are allocated to the first candidate task in accordance with the selection criteria.~~

16. (Currently Amended) A computer-readable medium as recited in claim 15 wherein the scheduling ~~comprising~~ comprises:

identifying one or more of the first resources that are not the same as the second resource and that satisfy the selection criteria.

17. (Previously Presented) A computer-readable medium as recited in claim 15 further comprising:

receiving a current schedule state having currently scheduled tasks and currently scheduled resources;

determining whether the first candidate task and the second candidate task are viable based on the current schedule state; and

eliminating one or more of the first or second candidate task from consideration if the one or more of the first or second candidate task is not viable.

18. (Currently Amended) A system for scheduling a plurality of tasks, the system comprising:

a task log including a plurality of task objects, each said task object representing a task to be scheduled, each ~~said task object of the task objects~~ having one or more resource objects, each said resource object representing a resource that is selectable for the associated task according to a specified function of the one or more resource objects resource selection logic, and wherein ~~at least one specified function is an ‘AND’ function indicating that all of a plurality of resource objects are required for the task, each of the task objects operable to return a probability that scheduling of the task will influence another task~~ each said task object further includes an interface function that, when called, determines the probability that another task represented by another task object will influence the task represented by said called task object, said determination based on a current schedule state and resource selection logic associated with said another task object and said called task object;

a cost generator operable to generate a cost for each of the tasks based on probabilities that ~~the~~ each said task will influence each other said task; and  
a scheduling engine operable to schedule the task with the least cost.

19. (Cancelled)

20. (Currently Amended) A system as recited in claim ~~[[19]]~~ 18 wherein ~~each specified function~~ the resource selection logic is selected from a group consisting of:

an "AND" function indicating that all of the plurality of resources are required;  
an "XOR" function indicating that one and only one of the plurality of resources is required; and  
an "OR" function indicating that at least one of the plurality of resources is required.

21. (Original) A system as recited in claim 18 wherein the cost generator is further operable to calculate pair-wise costs representing a cost of scheduling a first task relative to a second task.

22. (Original) A system as recited in claim 18 wherein the cost generator is further operable to tabulate pair-wise costs representing a cost of scheduling a first task relative to a second task and generate a total cost associated with each of the tasks.

23. (Original) A system as recited in claim 18 wherein the task object further comprises time constraint information indicating at least one time constraint between two of the tasks.

24. (Original) A system as recited in claim 18 wherein the task log further comprises a hierarchical arrangement of the task objects and the resource objects.

25. (Original) A system as recited in claim 18 wherein each task object is operable to return a probability that the task object competes with another task object.

26. (Previously Presented) A method comprising:  
generating a cost associated with each of a plurality of tasks to be scheduled, wherein each task requires one or more resources, and wherein at least one of the tasks requires a plurality of resources, and wherein generating the cost of the at least one task is based on a probability that other tasks require one or more of the plurality of resources;

executing a minimum cost task; ~~and~~  
scheduling the minimum cost task if the minimum cost task successfully executes; and  
reversing side-effects from the executing if the minimum cost task fails to execute.

27. (Original) A method as recited in claim 26 wherein the generating comprises determining a pair-wise probability representing a probability that a first task in the plurality of tasks conflicts with a second task in the plurality of tasks.

28. (Original) A method as recited in claim 27 further comprising adjusting the pair-wise probability in response to scheduling the minimum cost task.

29. (Original) A method as recited in claim 26 wherein the generating comprises determining the costs based upon preference weights assigned to the plurality of tasks.

30. (Original) A method as recited in claim 26 further comprising determining viability of each task in the plurality of tasks.

31. (New) A method as recited in claim 26, wherein reversing side-effects comprises de-allocating any resources allocated during the executing and de-scheduling any tasks that were scheduled during the executing.